

U.S. Patent No. 6,353,237 to Yu discloses an electrostatic discharge (ESD) protection device. The ESD protection device includes an SCR 4 comprising a pair of bipolar junction transistors 40,41. In addition to the bipolar junction transistors of the SCR, a separate and distinct triggering structure comprising an N-type doped region 36 is laid out in the P-type semiconductor layer 30 so as to establish a junction 37 (col. 3, lines 27-34; Figs. 3 and 5) is taught. This N-type doped region and P-type semiconductor layer serve as the cathode and anode of a diode 6 (col. 3, line 67 through col. 4, line 2). *Yu teaches that in operation the diode junction breaks down at substantially the breakdown voltage of the diode. This diode junction breakdown current then turns on transistor 41 thus triggering the SCR 4 (col. 4 lines 5-12).*

In contradistinction, independent claim 1 claims the present invention as a device comprising a pair of complementary bipolar transistors fabricated *such that a reach-through effect across the base of at least one of the complementary bipolar transistors causes triggering of the device.* Independent claim 7 similarly recites first and second transistors and an avalanche junction wherein one of the first and second transistors is *characterized by attaining a reach-through voltage prior to the avalanche junction attaining the avalanche junction breakdown voltage.* Independent claim 26 similarly recites a structure of lightly and heavily doped regions of first and second conductivity types and an avalanche junction *wherein a reach-through effect occurs prior to an avalanche junction breakdown across the avalanche junction.* Exemplary structures of the claimed device are described in the specification and drawings (paragraph 0043 & Fig. 4, paragraph 0048 & Fig. 5, paragraph 50 and Fig. 10, paragraph 0052 & Fig. 11). Applicant points out that the claimed devices do not

rely upon an auxiliary triggering device (application paragraph 0022) as taught by Yu (diode 6). Applicants' claimed devices trigger as the result of reach-through assisted conduction across the base of one of the pair of bipolar transistors making up the SCR device (application paragraph 0022) and not avalanche breakdown of an auxiliary device as taught by Yu (col. 4, lines 5-12). Applicants' claimed devices are clearly distinguishable in structure and function over any structure and function disclosed in Yu. The United States Court of Appeals for the Federal Circuit (CAFC) has stated that a claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference. See Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). It is respectfully submitted that independent claims 1, 7 and 26 are not anticipated by Yu since each and every element as set forth therein is not taught or suggested by Yu. Specifically, the functional aspects of reach-through effect or reach-through voltage of the present invention are completely and unequivocally absent from Yu. In fact, Yu teaches a separate diode structure apart from the transistor structures of the SCR that is completely absent from the claims of the present invention and which operates to trigger the device in accordance with the breakdown across the junction thereof. The present invention SCR is triggered by reach-through across the base of at least one of the transistor structures thereof.

For the reasons stated above, the remaining claims which all depend from the independent claims 1, 7 or 26 are not anticipated by Yu or rendered obvious by Yu as asserted in the Office Action. Based on the above, it is respectfully submitted that the claims are in a condition for allowance. Reconsideration and withdrawal of all rejections are respectfully requested.

Respectfully submitted,

By: 
Randy W. Tung
Reg. No. 31,311

RWT/VC